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Reports
Pfister,
R.D.

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ACCELERATED PUBLIC WORKS PROGRAM

PRIEST RIVER EXPERIMENTAL FOREST

1962 - 1964

By

Robert D. Pfister

Intermountain Forest and Range Experiment Station
Ogden, Utah

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December 8, 1964

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Intermountain Forest & Range Experiment Station
Forestry Sciences Laboratory
P.O. Box 469, Moscow, Idaho 83843

1380
December 8, 1964

Files

R. D. Pfister, Research Forester, INT

Reports

AFW Program - Priest River Experimental Forest - 1962-1964

An original appropriation (Phase I) of $60,000 was made available in November 1962. A second appropriation (Phase II) of $30,000 was made available in January 1963. These funds were handled by the Kaniksu National Forest. Force account projects were supervised by Kaniksu National Forest personnel or by R. D. Pfister. Contracts were administered by the Kaniksu National Forest or by the Regional Office, depending on their nature. Individual file reports have been made for each project and a copy of each is attached. Photographs of the project work are included in the appendix.

The summary of expenditures is presented in the following tabulation:

Name of Project	Expenditures	
	Planned	Actual
A. Contracts		
Drilling well	$ 3,000	$ 3,506
Water and sewer system	40,000	36,358
Electrical system - rewiring	3,000	3,860
Roofs for office and lodge	2,000	2,964
Heating systems	4,000	5,379
Shop foundation repair	2,000	1,094
B. Force Account		
Road construction - 597-G	24,000	22,362
Road surfacing - 597-N7	1,000	-
Road reconstruction - 597-A, A1	2,500	3,338
Building for fire behavior plots	2,000	2,137
Fencing " " " "	400	399
Land clearing (fire behavior plots and administrative site)	2,000	1,911
Maintenance of buildings	3,100	5,553

C. Miscellaneous

(R.O. and Kaniksu overhead, inspections, etc.	1,000	1,035
TOTALS	$90,000	$89,896

Attachments

cc: PREF - APW Report

Intermountain Forest & Range Experiment Station
Forestry Sciences Laboratory
P.O. Box 469, Moscow, Idaho

2240
October 27, 1964

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Improvements

Through APW appropriations, the following improvements were made at Priest River Experimental Forest in 1963:

FENCING

The fence around the five behavior plots was relocated and rebuilt. A gate was provided adjacent to the main road to provide better control of access to this study area.

LAND TREATMENT

The fire behavior study area was leveled with a D-7, stumps were grubbed out and the area was disked and dragged to provide uniform level conditions. Many trees around the administration site were removed to provide more daylight to the buildings. The power line right-of-way from the well to the reservoir was also cleared prior to contracting the water system work.

COST DATA

FENCING PROJECT	$ 398.77
LAND TREATMENT	1,910.91
TOTAL COST	$ 2,309.68

cc: Moscow - Files
PREF - APW Report
PREF - Files

5610
October 26, 1964

Files

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Transportation System

Through APW appropriations, about one mile of road 597-G was built in 1962. Road 597-A1 and part of road 597-A were reconstructed in 1963.

Work on road 597-G began on November 1, 1962 and terminated about December 30, 1962. The Kaniksu National Forest supervised the force account work. Two tractors with dozer attachments performed the grading. Clearing, with complete disposal, was done by hand labor employing 19 men. The road was completed between stations 0+00 and 56+00 except for some culvert installations and finish grading. Clearing extended to station 32+50 but did not include grubbing of roots and stumps.

Work on roads 597-A and 597-A1 began April 16, 1963 and was completed May 31, 1963. Grant Vess, District Engineer supervised the force account work. About one mile of the headquarters area road was improved. Trees and encroaching brush were removed to increase visibility, culverts were replaced, drainage and alignment were improved. About 4" of gravel was put on the improved road.

COST DATA

CONSTRUCTION - Road 597-G	$22,362
RECONSTRUCTION - Road 597-A and A1	3,338
TOTAL KNOWN ROAD COSTS	$25,700

Additional information relating to this work is in the Moscow correspondence files and the Kaniksu National Forest records.

cc: Moscow - Files
PREF - APW report
PREF - Files

5650
October 26, 1964

Files

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Buildings, Water and Sanitation

Through AFW appropriations, a new building was installed near the fire behavior plots on the old CCC site in 1963. The building will be used to implement instrumentation studies on behavior of fire under exacting conditions.

The building is a portable bunkhouse, 12'X24' (Portable Camp Unit, R-1 Plan B-272-D) which was prefabricated by the Coeur d'Alene National Forest with AFW labor. The building was trucked to Priest River Experimental Forest and erected by a crew from Falls Ranger District. It is mounted on skids so it can be moved with little difficulty. Electrical service was provided by Pacific Power and Light during the summer of 1963. Interior wiring was installed by Power City Electric under Contract No. 26-1-124.

COST DATA

BUILDING (Coeur D'Alene N.F.)	$1,800.00
LABOR	243.92
TRANSPORTATION	93.42
TOTAL COST (Excluding wiring)	$2,137.34

cc: Moscow - Files
PREF - AFW report
PREF - Files

5650
October 26, 1964

Files

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Buildings, Water and Sanitation

Through AFW appropriations, a new well was drilled for culinary water supply at Priest River Experimental Forest in 1962. E. A. Holman Drilling Co., Spokane, began work on December 5, 1962 and completed the well on December 24, 1962.

Work consisted of drilling and casing an 8" well to a depth of 180'. Also included were, perforating, screening, surging, developing, and test pumping. The profile revealed: clay - 0 to 60', quicksand - 60 to 150', coarse sand - 150 to 155', water-bearing gravel - 155 to 160', and rock - 160 to 180'. Test pumping yielded 35 gal. per minute.

COST DATA

CONTRACT (A. E. Hollman Drilling Co.)	$3,420.20
ENGINEERING & MILEAGE	
(CODR, Fuller M. Joyce, Kaniksu N.F.)	86.00
	$3,506.20

The well should provide ample water supply unless disturbance causes quicksand movement into the water-bearing strata.

Additional information relating to this work may be found in Bid No. 26-63-37 and correspondence relating to Contract No. 26-1-91 filed at Moscow.

cc: Moscow - Files
PREF - AFW report
PREF - Files

5650
October 26, 1964

Files

R. D. Pfister, Research Forester, INT

Buildings, Water and Sanitation

Through APW appropriations, complete new water and sewer systems were installed at Priest River Experimental Forest in 1963. Hefte Construction Co., Spokane was the general contractor. Work began June 25, 1963 and was completed September 20, 1963.

The contract required: (1) installation of a water system, including a reservoir, distribution lines to existing residences, and a submersible well pump with complete electrical service and controls; and, (2) installation of a sewage collection and disposal system including sewer lines, manholes, cleanouts, and a sewage lagoon.

Empire Excavation, Spokane, subcontracted all excavation, building of lagoon and placed all water and sewer lines. Lambert Pump Service, Spokane, installed a Fairbanks-Morse submersible pump with B-W controls and a pitless adaptor. Mott Electric Company, Spokane, provided electrical service for the well and automatic controls at reservoir. Hefte Construction Company, Spokane, built the 21,600 gallon concrete reservoir and lagoon outlet box.

COST DATA

ORIGINAL CONTRACT		$32,320.00
CHANGE ORDERS (No. 1, 2 and 3)		499.00
	TOTAL TO CONTRACTOR	$32,819.00
ENGINEERING		
(CODR, Perle Suedberg, Kaniksu N. F.)		3,166.25
(Kaniksu N.F.)		372.82
	TOTAL KNOWN COST	$36,358.07

OPERATION AND MAINTENANCE

A. Automatic Controls--Normal operation of the pump is governed by electrodes spaced 6" apart with the upper electrode 6" from the top of the reservoir. The pump starts automatically when the water level recedes below the 12" electrode and stops when the water level reaches the 6" electrode. (About 1,4000 gallons are represented in this space.) Electrodes in the well cut the pump off when the water level recedes to 10' above the pump suction and resets automatically when the water level rises 20' above the pump suction. A no-flow alarm (horn) is actuated when the liquid level in the reservoir signals a need for water and the pump does not fuction.

B. Reservoir--Two manholes on the reservoir provide access to the electrodes and the reservoir. A manhole just south of the reservoir contains two control valves. The valve on the east side shuts off the main line while the one on the left can be used to drain the reservoir.

C. Distribution System--Three gate valves are provided on the main distribution lines. Stop and wall valves are located outside each building and at the nursery site hydrant.

D. Sewage Collection System--Five manholes are provided for clean-out operations if necessary. Flush-out standpipes are located outside each building. A fire hose can be used in these to clean out the lines.

E. Septic Tank and Lagoon--The septic tank should be cleaned out regularly--probably once every two or three years. The Lagoon should be operated at high water level during the winter months because of decreased bacterial activity. Boards should be placed in the outlet with the onset of freezing weather and removed in the spring.

Additional information on this system may be found in:

1. Contract No. 26-1-285 for Bid No. 26-63-5036 (filed at Moscow and PREF).

2. Final Construction Report (filed at Moscow and PREF).

cc: Moscow - Files
PREF - APW report
PREF - Files

Intermountain Forest & Range Experiment Station
Forestry Sciences Laboratory
P.O. Box 469, Moscow, Idaho

5650
October 27, 1964

Files

R. D. Pfister, Research Forester, INT

Buildings, Water and Sanitation

Through APW appropriations, conversion of five existing wood-fired heating systems to complete oil-fired systems was accomplished at Priest River Experimental Forest in 1963. Sandpoint Heating and Air Conditioning began on July 26, 1963 and completed the contract September 9, 1963.

In the office and lodge new conversion oil burner units were installed in the existing cast iron boilers. The office and lodge burner have a capacity of 282,000 BTUH and 129,000 BTUH bonnet output, respectively. Basement oil tanks are 275 gallon capacity. Units are thermostatically controlled.

In cottages 2, 3, and 4, new oil-fired, forced air, down-flo furnace units capable of delivering 84,000 BTUH bonnet output were installed. New duct work was installed in cottages 2 and 4. Some of the existing duct work was utilized in cottage 3. These units were provided with basement tanks of 220 gallon capacity. All units are thermostatically controlled. Operation manuals were left for each unit.

COST DATA

CONTRACT	$ 3,549.40
ENGINEERING (CODR - Perle Svedberg, Kanikus N.F.) (Engineering charges pro-rated with other projects)	1,829.57
TOTAL KNOWN COST	$ 5,378.97

Additional information may be found in Contract No. 13-160, Kaniksu N.F.

cc: Moscow - files
PREF - APW report
PREF - Files

PREF-APW

5650
May 20, 1964

Files

R. D. Pfister, Research Forester, INT

Buildings, Water and Sanitation

Through APW appropriations, a renovation of the Priest River Experimental Forest electrical system was accomplished in 1963. Power City Electric, Inc., Spokane began work on February 12, 1963 and completed the project March 21, 1963.

Work included the following:

ORIGINAL CONTRACT (No. 26-1-124)

1. Exterior - Installed floodlight with two switches for control weather station.

2. Exterior - Installed service pole at nursery site with outlets, two floodlights and switch.

3. Office and Laboratory - Replaced service entrance and panel, new motor control for furnace, installed three fluorescent lights, and replaced outlets to meet standards.

4. Shop - Replaced outlets to meet grounding requirements and installed switch for compressor motor.

5. Lodge - New service entrance and panel, new motor control for furnace and revamping of outlets.

6. Cottage #2 - New service panel, rewiring of house circuits and new outlets.

7. Cottage #3 - Replaced service entrance, meter, and panel. Grounded service equipment.

8. Cottage #4 - Installed new service entrance, panel, basement outlets and switches and office outlet.

9. Bunkhouse-Messhall - New service entrance, panel, outlets in kitchen, for freezer and upstairs. Replaced porch lights and revamped other wiring.

AMENDMENT

10. Additional improvements in all buildings plus installing the wiring provided with the portable building located near slash burning plots.

COST DATA

ORIGINAL CONTRACT	$2,966.10
AMENDMENT	534.00
TOTAL TO CONTRACTOR	3,500.10
ENGINEERING (Code - Rueben Edinger - Kaniksu N. F.)	330.67
MILEAGE	29.56
TOTAL KNOWN COST	$3,860.33

The workmanship was excellent; therefore, maintenance should be at a minimum. All circuits are marked on panel covers and no circuit is overloaded. If this practice is continued, no immediate maitenance should be necessary.

Additional information relating to this work may be found in:

1. Contract No. 26-1-124 for Bid No. 26-63-117 (filed at Moscow and PREF).

2. Final Construction Report (filed at Moscow).

cc: Moscow - files
PREF - APW Report
PREF - files

5650
May 20, 1964

Files

R. D. Pfister, Research Forester, INT

Buildings, Water and Sanitation

Through APW appropriations, new aluminum shingle roofs were installed on the office and cottage #1 roofs at Priest River Experimental Forest in 1963. Long Construction Company, Sandpoint, began work on March 10, 1963 and completed the project April 26, 1963.

Work consisted of installing Reynolds Aluminum shingles on the two buildings. Aluminum alloy flashing was used where necessary. Prior to installation of shingles the roofs were swept clean, all loose shingles were nailed down, all overhanging shingles were trimmed flush with edge of roof and 15 pound roofing felt was laid over the existing roof.

COST DATA

OFFICE-LAB	$1,205.00
COTTAGE #1	1,545.00
TOTAL TO CONTRACTOR	2,750.00
ENGINEERING (CODR, Rueben Edinger, Kankisu N. F.)	159.89
MILEAGE	54.28
TOTAL KNOWN COST	$2,964.17

The weight and shape of the Reynolds Aluminum shingle is such that planking should be used when walking on the roof to avoid damaging the four-way seal. Should the roof leak on the flat portion of Cottage #1, it will be necessary to remove the first three rows of shingles and felt, completely expose the decking, and apply aluminum flashing and mastic in order to seal it. The four-way interlock should seal out driving rain, snow and wind although problems may be anticipated if snow is allowed to accumulate and melt on the flat roof portion on Cottage #1.

Additional information relating to this work may be found in:

1. Contract No. 26-1-116 for Bid No. 26-63-113-(filed at Moscow).

2. Final Construction Report (including thermofax of photos) - (filed at Moscow). (Photographs filed at Ogden.)

cc: Moscow - files
PREF - APW report
PREF - files

Intermountain Forest & Range Experiment Station
Forestry Sciences Laboratory
P.O. Box 469, Moscow, Idaho

5650
October 28, 1964

Files

R. D. Pfister, Research Forester, INT

Buildings, Water, and Sanitation

Through APW appropriations, the foundation was repaired under the shop building at Priest River Experimental Forest in 1964. Engblum and Eggleston of Priest River began work June 30, 1964 and completed the repairs July 11, 1964.

Work consisted of raising the east end of the building, removing the old foundation, pouring of new walls and footings extending at least 18" below the ground surface, installing a new wooden plate, and lowering the building on the new foundation.

COST DATA

CONTRACT	$ 719.00
ENGINEERING	374.73
TOTAL KNOWN COST	$1,093.73

Additional information may be found in Bid. No. 17-14-63 (filed at Moscow) and Contract No. 13-161 (Kaniksu N.F.).

cc: Moscow - files
PREF - APW Report
PREF - Files

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Forestry Sciences Laboratory
P.O. Box 469, Moscow, Idaho

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5650
October 27, 1964

R. D. Pfister, Research Forester, INT

Buildings, Water and Sanitation

Through APW appropriations, considerable building maintenance was accomplished at Priest River Experimental Forest during 1962 and 1963. The work was done from November 15 to December 31, 1962 and from March 1 to May 31, 1963. Employed were Milo Coons, Priest River, Guino Pucci, Sandpoint, and Bernie Archier, Priest River.

Maintenance work included the following:

1. Office - new ceilings in southeast office room and all rooms upstairs; installed cabinets in northwest room, 2nd floor; tile floors for lab and weighing rooms; painted all upstairs rooms; refinished wood floors in southeast, and those upstairs not tiled.

2. Cottage #4 - new sink and cabinet top; new linoleum in kitchen and back porch; painted kitchen cabinets.

3. Cottage #3 - new bathroom floor; painted living room.

4. Cottage #1 - painted living room and dining room.

5. Bunkhouse-Messhall - repaired roof around chimney; repaired wall in west dormitory.

6. Shop - installed replacement sliding doors.

7. Water and Sewer - cleaned out Cottage #3 sewer line and repaired break in water line.

COST DATA

PHASE I (11/15/62 to 12/31/62)		$2,477.94
Labor	$1,787.79	
Transportation	85.25	
Materials	604.90	
PHASE II (3/1/63 to 5/31/63)		3,075.42
Labor	2,328.33	
Materials	747.09	
TOTAL		$5,553,36

cc: Moscow - Files
PREF - APW Files
PREF - Files

APPENDIX

Figure 1.--New aluminum shingle roof on office.

Figure 2.--Drilling well.

Figure 3.--Drilling well (Note quicksand by bailer).

Figure 4.--Preparing forms for water reservoir.

Figure 5.--Reservoir near completion.

Figure 6.--Excavating for sewer line by Cottage #4.

Figure 7.--Filling sewer line trenches. (Manhole in place).

Figure 8.--Sewer line trench by bunkhouse-messhall. (Manhole in place).

Figure 9.--General view of excavations and improved entrance road.

Figure 10.--Overhead view of construction "scars".

Fig. 1.--New aluminum shingle roof on office

Fig. 2.--Drilling well

Fig. 3.--Drilling well. (Note quicksand by bailer)

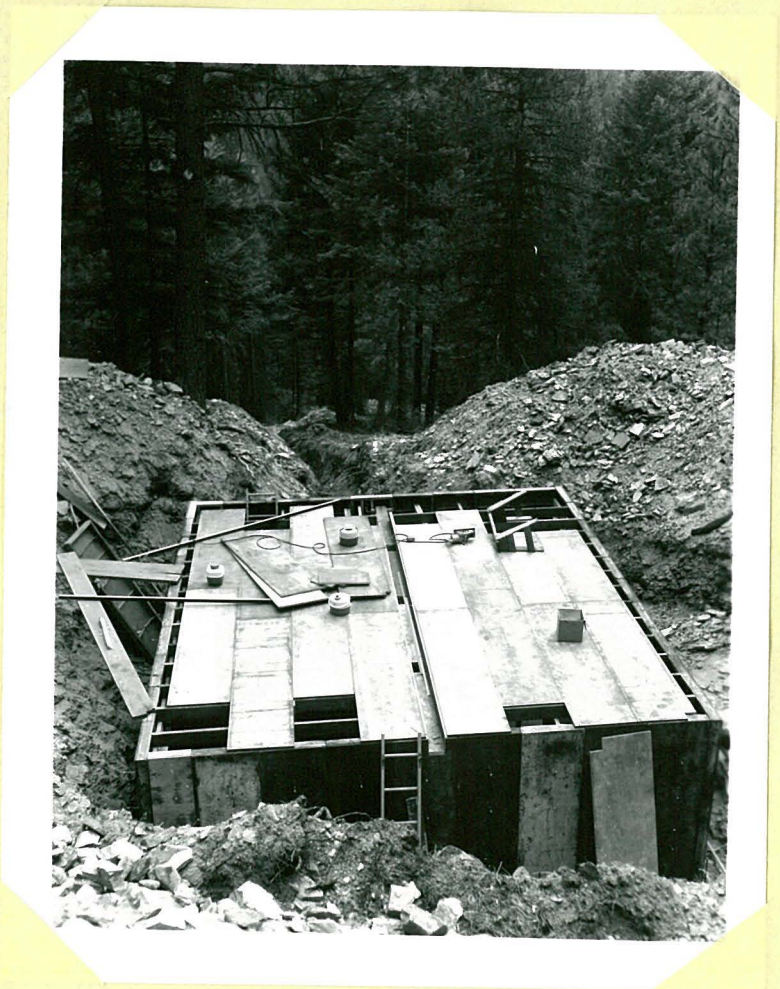

Fig. 4.--Preparing forms for water reservoir

Orig. in file copy at Moscow
Can't find negative.
RPC

Fig. 5.--Reservoir near completion

Fig. 6.--Excavating for sewer line by Cottage #4

Fig. 7.--Filling sewer line trenches. (Manhole in place)

Fig. 8.--Sewer line trench by bunkhouse-messhall.

Fig. 9.--General view of excavations and improved entrance road

Fig. 10.--Overhead view of construction "scars".